



Agricultural Science; Safe and Sustainable

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Washington 6th October 2009



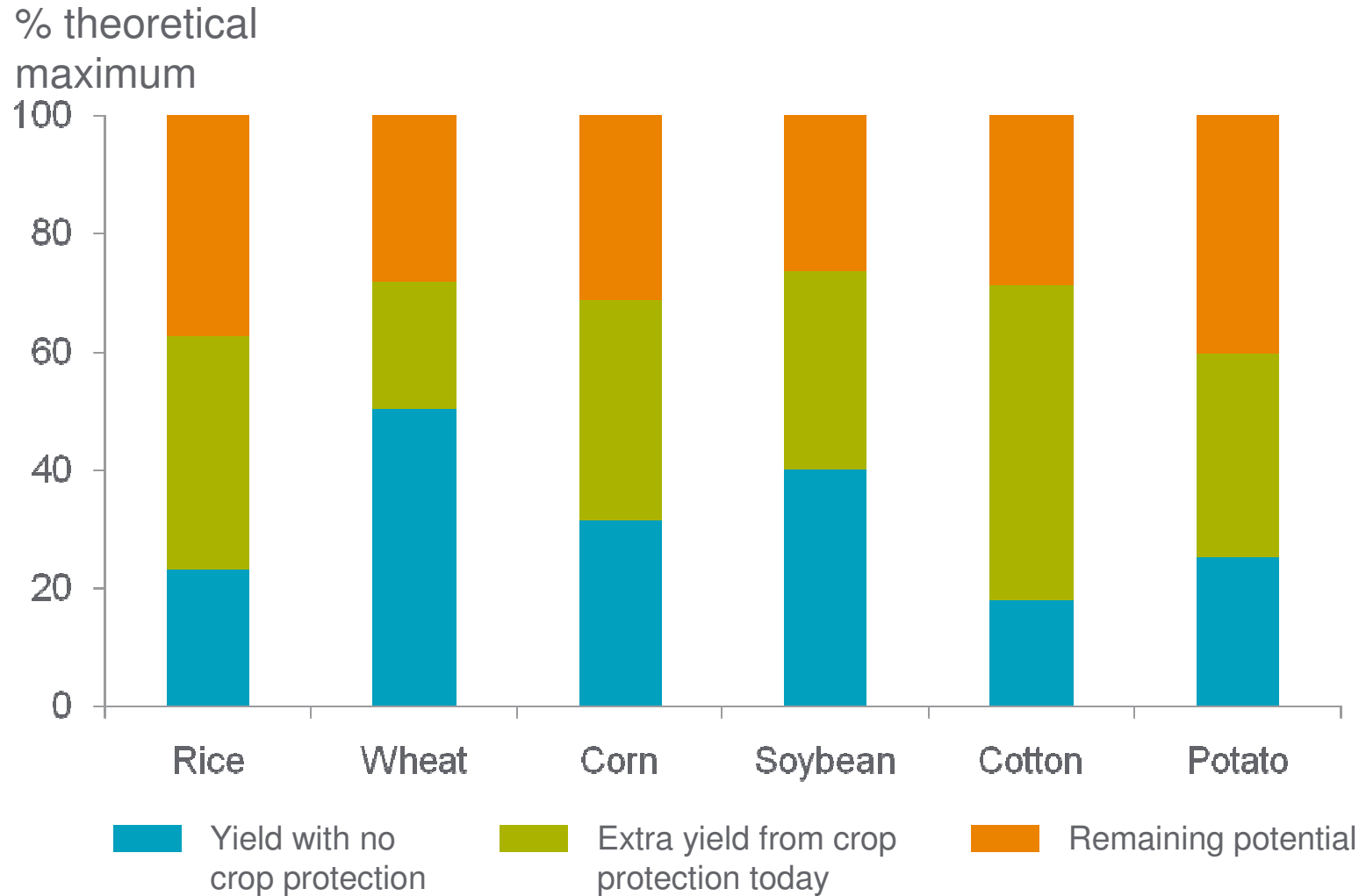


Crop Protection: an essential technology



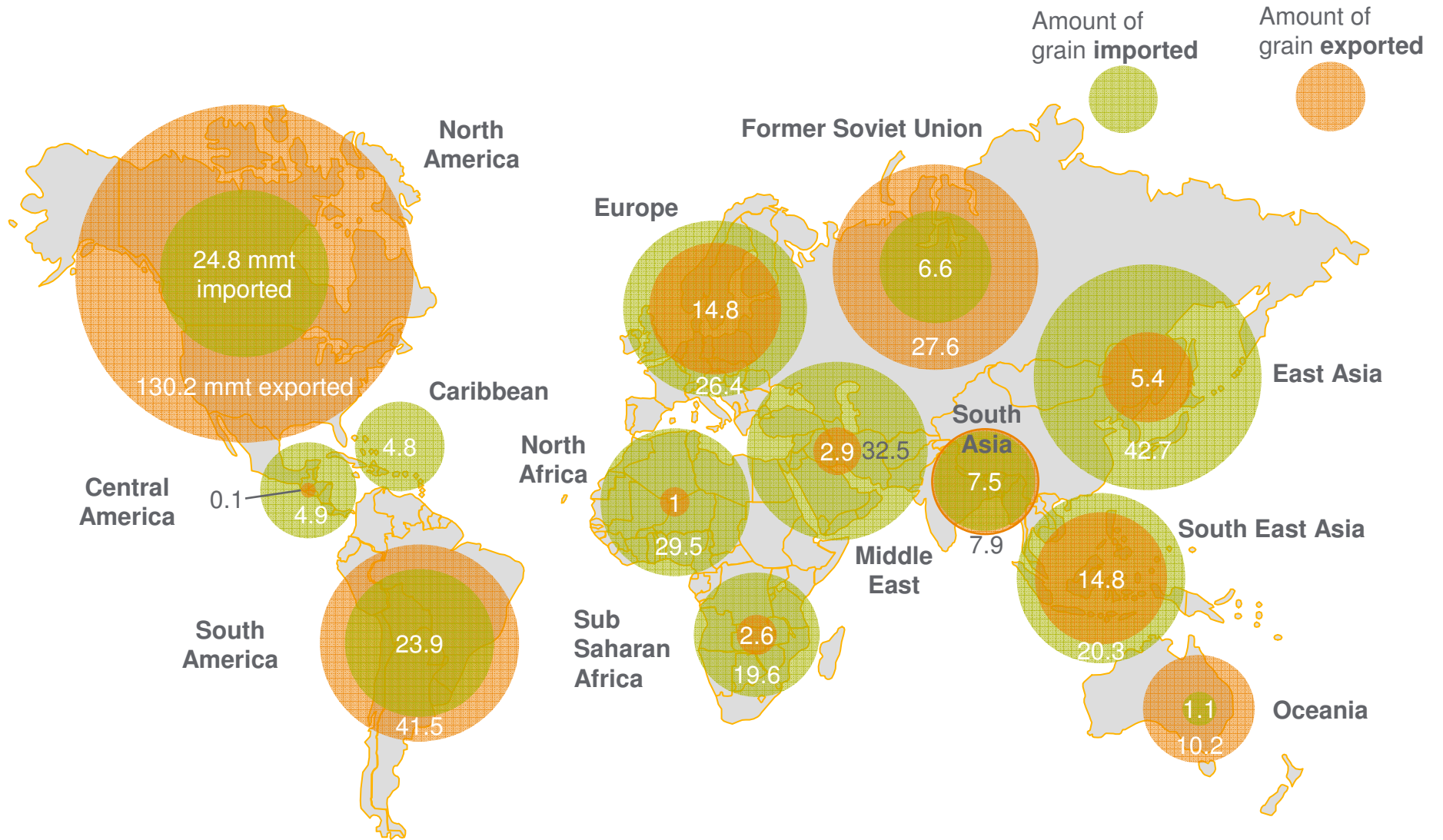
40% of the world's food would not exist without crop protection products

CP contribution to crop yields & remaining potential



Source: Crop Losses to Pests; E-C Oerke, Journal of Agricultural Science (2006)

Global grain trade: the 'Haves' & the 'Have-nots'



Plenty of food scare stories in the media, but....

More than half of babies born now in the UK and other wealthy nations will live to 100 years of age

- BBC report Oct 02 2009 – Lancet paper by Prof Kaare Christensen, University of Southern Denmark

What do toxicologists think?

- 2 to1 think that U.S. regulation is superior to EU
- 69% disagree with regulating according to the Precautionary Principle
- Overwhelmingly reject the idea that exposure to even the smallest amount of hazardous chemicals is dangerous
- Nearly unanimous in rejecting the notion that organic or natural products are inherently safer than others
- 87% believe that news reporting of chemical risk is not balanced
- Large majorities believe that leading environmental groups overstate risks (e.g. Greenpeace 96%)
- Government agencies seen as balanced

Survey responses of ca 1,000 members of the
Society of Toxicologists by Centre for Health and Risk Communication
George Mason University 2009

How toxicologists rate the risk of chemicals

	High	Medium	Low	Don't Know
Smoking tobacco	88%	10%	1%	1%
Second-hand smoke	44%	46%	9%	1%
Mercury	35%	43%	18%	4%
Sunlight	26%	60%	12%	2%
Aflatoxin	29%	42%	23%	6%
Ethyl alcohol	25%	52%	19%	4%
Benzene	24%	44%	22%	10%
Radiation	23%	46%	27%	4%
Hormones	14%	52%	22%	12%
Enviro.. Estrogens	14%	50%	30%	6%
Chlorpyrifos	10%	35%	27%	28%

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Pesticides are safe

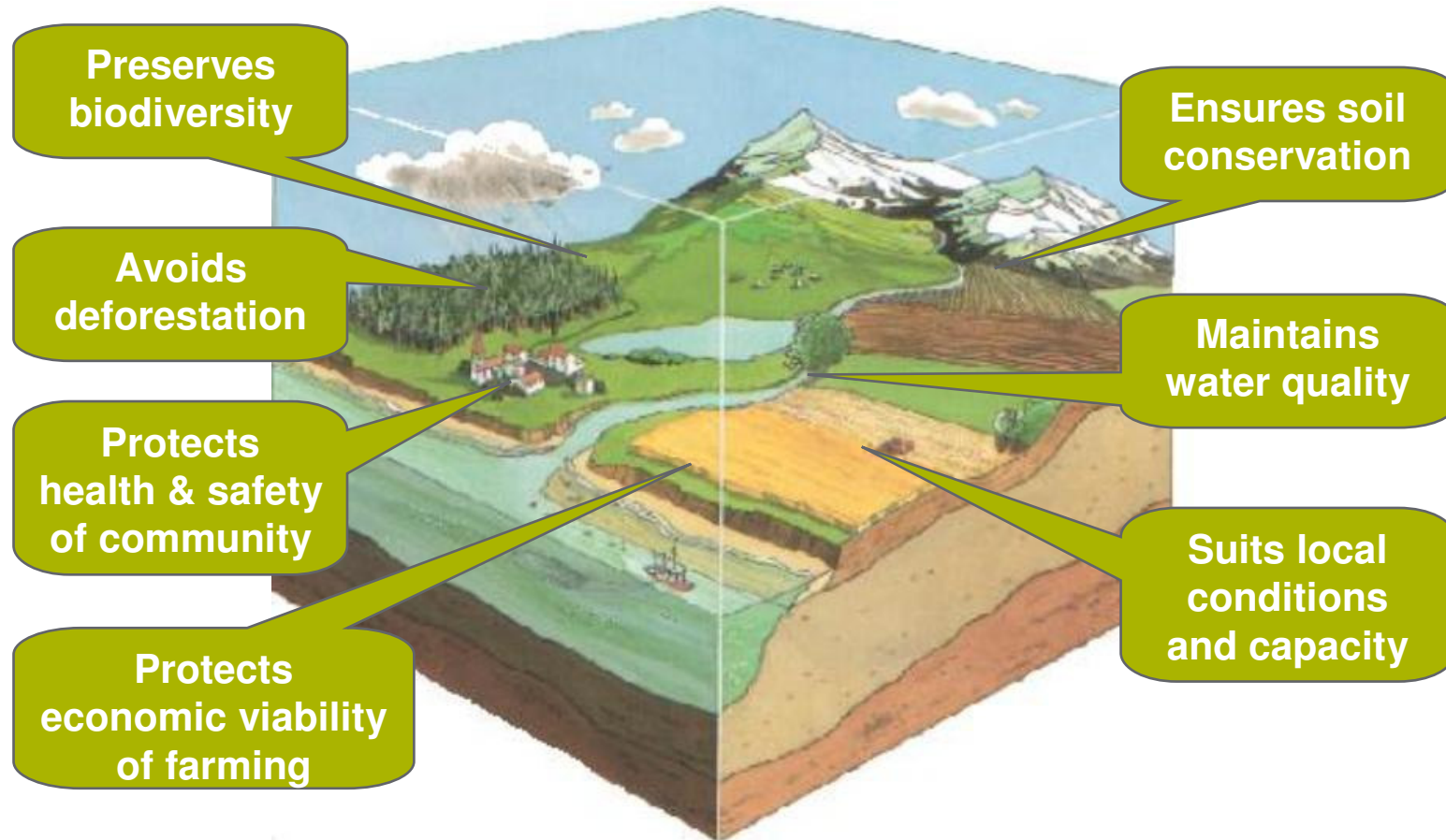
- Significant efforts go into monitoring pesticide residue levels in food
- UK Pesticides Residues Committee, European Food Standards Agency have recently released significant volumes of data
- New Zealand Food Safety Authority creates a report on exposure through Total Diet studies (2003/4, new data released 2009)

- Safety margins for pesticide residues are very high
- Risk of any adverse health effect from dietary exposure is very low

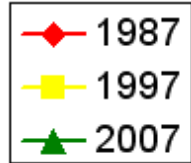
- How low is low?

Sustainable agriculture

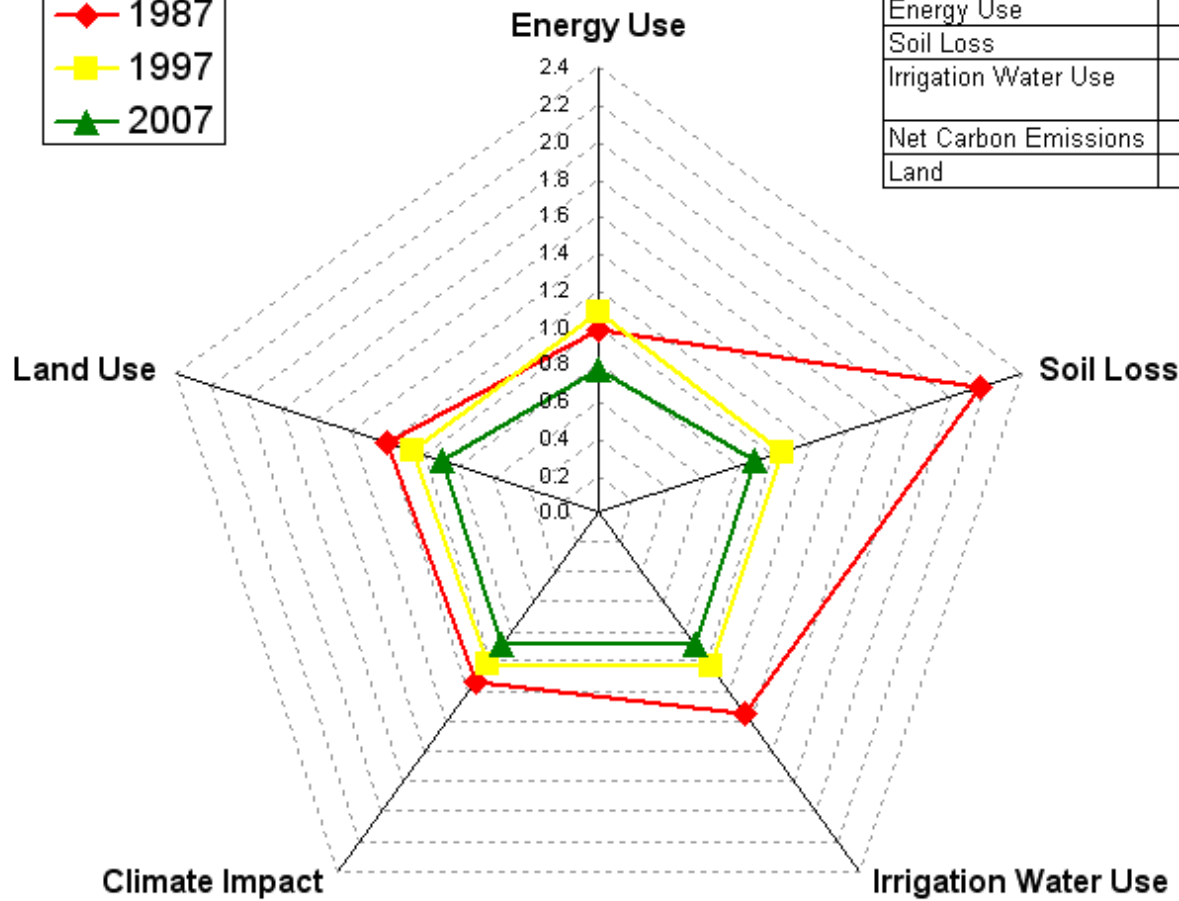
Our commitment: contribute to sustainable agriculture in the production of healthy food and the conservation of biodiversity



Corn Efficiency Indicators (Per Unit of Output, Index 2000 = 1)



Year	2000	Unit
Energy Use	0.057	Million Btu/bushel
Soil Loss	28.7	Pounds soil/bushel
Irrigation Water Use	5.6	Thousand gallons/Incremental bushel due to irrigation
Net Carbon Emissions	3.0	Pounds Carbon/bushel
Land	0.013	Acres/bushel



(Values are expressed as 5-year centered averages.)

Agriculture & GHG emissions - land use change

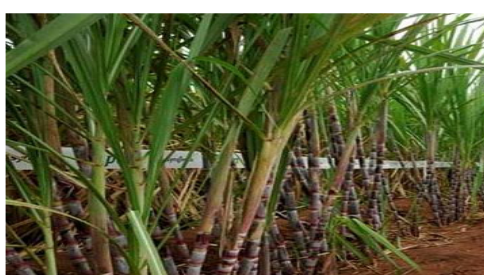


Agriculture for the future

- We can meet the challenge of growing twice as much using less land, provided we use technology
- Fundamental understanding of plant science and advances in plant breeding will allow design of better varieties with stress tolerance, higher yield, better nutrition
- Integrating chemical and genetic technologies in sustainable high performing agronomic systems that protect and promote biodiversity
- There has never been a time when technology was under so much scrutiny and attack
- There has never been a time when technology was more important

Bringing plant potential to life

plene transforming sugar cane planting in Brazil



SYNGENTA INNOVATION

- CP, new active ingredients and formulations
- Coating protectors
- Vigor technology
- Cutting equipment
- “Integrated Planting System”

TECHNOLOGICAL DEVELOPMENT

- Planting Equipments
- Treating Equipments

GERMPLASM